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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,994	12/18/2000	Mikael Bisgaard-Bohr	9684	4293

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JAMES M. STOVER
NCR CORPORATION
1700 SOUTH PATTERSON BLVD, WHQ4
DAYTON, OH 45479

EXAMINER
NGUYEN, CINDY

ART UNIT	PAPER NUMBER
2171	

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 March 2003</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-24</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 December 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

This is in response to amendment filed 03/17/03.

1.   Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2.   Claims 1, 3, 7, 9, 11, 15, 17, 19 and 23 stand rejected under 35 U.S.C. 102(e) as being

anticipated by Fayyad et al. (U.S 6263337) (Fayyad).

Regarding claim 1, Fayyad disclose: a data structure, for analyzing data in a computer-

implemented data mining system (12, fig. 2 and corresponding text, Fayyad), wherein the data

structure is a data model that comprises a Gaussian Mixture Model that stores transactional data

(col. 9, lines 22-67, Fayyad) and the data model is mapped to aggregate the transactional data for

cluster analysis (col. 8, lines 34-46, Fayyad).

Regarding claims 9 and 17, Fayyad disclose: an method and an apparatus for analyzing data in a

computer-implemented data mining system (12, fig. 2 and corresponding text, Fayyad), comprising:

generating a data structure in the computer-implemented data mining system (col. 9, lines 57 to co. 11,

lines 29, Fayyad), wherein the data structure is a data model that comprises a Gaussian Mixture Model

that stores transactional data (col. 9, lines 22-67, Fayyad) and the data model is mapped to aggregate the

transactional data for cluster analysis (col. 8, lines 34-46, Fayyad).

Regarding claims 3, 11 and 19, all the limitations of these claims have been noted in the

rejection of claims 1, 9 and 17, respectively. In addition, Fayyad disclose: wherein the cluster

analysis groups the transactional data into coherent groups according to perceived similarities in

the transactional data (col. 8, lines 35-64, Fayyad).

Regarding claims 7, 15 and 23, all the limitations of these claims have been noted in the

rejection of claims 1, 9 and 17, respectively. In addition, Fayyad disclose: wherein the data

model is mapped into a database view to produce a correct level of aggregation for statistical

analysis (col. 2, lines 60 col. 3, lines 9, Fayyad).

3.   Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set

forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102
> of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art
> to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 2, 4-6, 10, 12-14 and 18, 20-22 stand rejected under 35 U.S.C. 103(a) as being

unpatentable over Fayyad et al. (U.S 6263337) (Fayyad) in view of Van Huben et al. (U.S 6327594)

(Van).

Regarding claims 2, 10 and 18, all the limitations of these claims have been noted in the

rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Van disclose: wherein the data

model includes a basket table that contains summary information about the transactional data

(col. 11, liens 53-67, Fayyad), an item table that contains information about individual items

referenced in the transactional data (col. 23, lines 7-26, Van), and a department table that

contains aggregate information about the transactional data (col. 25, lines 49-63, Van). Thus, at

the time invention was made, it would have been obvious to a person of ordinary skill in the art

to include referenced data and department table that contains aggregate information about the

transaction data in the system of Fayyad as taught by Van. The motivation being to enable the

user to group the useful information about the transactional data into subgroups and to organize

data in the database.

Regarding claims 4, 12 and 20, all the limitations of these claims have been noted in the

rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Van disclose: wherein the data

model is stored in a relational database managed by a relational database management system

(col. 8, lines 14-65, Van). Thus, at the time invention was made, it would have been obvious to a

person of ordinary skill in the art to include data model is stored in relational database in the

system of Fayyad as taught by Van. The motivation being to enable the user to store data

repositories managed by the data mining algorithm.

Regarding claims 5, 13 and 21, all the limitations of these claims have been noted in the

rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Van disclose: wherein the data

model is accessed from a relational database managed by a relational database management

system (col. 12, lines 24-50, Van). Thus, at the time invention was made, it would have been

obvious to a person of ordinary skill in the art to include data model is accessed from relational

database in the system of Fayyad as taught by Van. The motivation being to enable the user to

access to the repositories and modify information in the relational database.

Regarding claims 6, 14 and 22, all the limitations of these claims have been noted in the

rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Van disclose: wherein the data

model is mapped into a single flat table format to produce a correct level of aggregation for

statistical analysis (col. 9, lines 66 to col. 10, lines 22, Van). Thus, at the time invention was

made, it would have been obvious to a person of ordinary skill in the art to include data model is

mapped into a single flat table in the system of Fayyad as taught by Van. The motivation being

to enable the user to implement data model into a single format and classifying data in the table.

5.   **Claims 8, 16 and 24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over**

Fayyad et al. (U.S 6263337) (Fayyad) in view of Guha et al. (U.S 6049797) (Guha).

Regarding claims 8, 16 and 24, all the limitations of these claims have been noted in the rejection

of claims 1, 9 and 17, respectively. However, Fayyad didn't disclose: wherein the data model is

comprised of one row per transaction in the transactional data. On the other hand, Guha's background

disclose: wherein the data model is comprised of one row per transaction in the transactional data (col.

1, lines 25-33, Guha). Thus, at the time invention was made, it would have been obvious to a person of

ordinary skill in the art to include transaction step of one row per transaction in the transaction data in

the system of Fayyad as taught by Guha. The motivation being to enable the user to process one

transaction data at the time to avoid corruption of data by the system.

6.   *Response to Arguments*

Applicant argues: Fayyad doesn't disclose: mapping the data model to aggregate

transactional data for cluster analysis. Examiner disagree, Fayyad clearly discloses mapping the

data model to aggregate transactional data for cluster analysis as pointer 160 that point to a group

of K vecteors of n elements 162 designated 'sum' a second group of k vectors 164 designated

'sumsq' and see also at col. 8, lines 1-65.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy

as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

7.   *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Medl; Robert E. (US 6108004). GUI guide for data mining.

Pham et al. (U.S 5970482). System for data mining using neuroagents.

8. *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 703-305-4698. The examiner can normally be reached on M-F: 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CN

Cindy Nguyen
April 9, 2003

SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100